

Release notes for ENDF/B Development n-089\_Ac\_225  
evaluation



April 26, 2017

- fudge-4.0 Warnings:

1. Cross section does not match sum of linked reaction cross sections  
*crossSectionSum label 0: total (Error # 0): CS Sum.*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.94%

2. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 1 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission] [nubar]): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

3. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 3 (total): / Form 'eval': / Component 0 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

4. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 3 (total): / Form 'eval': / Component 1 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 4 (n + Ac225): / Form 'eval': / Component 0 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 4 (n + Ac225): / Form 'eval': / Component 1 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 8 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission]): / Form 'eval': / Component 0 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 8 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission]): / Form 'eval': / Component 1 (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 10 ( $n + (Ac225\_e1 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (1.034759e-09) is too small

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 11 ( $n + (Ac225\_e2 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (4.327718e-10) is too small

11. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 12 ( $n + (Ac225\_e3 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (3.950139e-09) is too small

12. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 13 ( $n + (Ac225\_e4 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (2.594460e-10) is too small

13. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 14 ( $n + (Ac225\_e5 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (3.840314e-09) is too small

14. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 15 ( $n + (Ac225\_e6 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (4.630740e-10) is too small

15. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 16 ( $n + (Ac225\_e7 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (2.553898e-10) is too small

16. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 17 ( $n + (Ac225\_e8 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*

WARNING: Ratio of smallest/largest eigenvalue (5.554409e-09) is too small

17. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 18 ( $n + (Ac225\_e9 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (7.321614e-09) is too small
18. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 19 ( $n + (Ac225\_e10 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (4.685366e-10) is too small
19. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 20 ( $n + (Ac225\_e11 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (4.777573e-09) is too small
20. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 21 ( $n + (Ac225\_e12 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (5.451988e-09) is too small
21. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 22 ( $n + (Ac225\_e13 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (1.146913e-09) is too small
22. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 23 ( $n + (Ac225\_e14 \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (3.243962e-09) is too small
23. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 24 ( $n + (Ac225\_c \rightarrow Ac225 + \gamma)$ ): / Form 'eval': (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
24. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.  
*Section 25 ( $(Ac226 + \gamma)$ ): / Form 'eval': / Component 0 (Error # 0): Condition num.*
- WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small

25. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 25 (Ac226 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

26. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 26 (n + Ac225 [angular distribution]): / Form 'eval': (Error # 1): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

27. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 27 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

28. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 28 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

29. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 29 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

30. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.

*Section 30 (n[multiplicity:'energyDependent', emissionMode:'prompt'] + n[emissionMode:'1 delayed'] + gamma [total fission] [spectrum]): / Form 'eval': (Error # 0): Condition num.*

**WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small**

- **fudge-4.0 Errors:**

1. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING: Domain doesn't match the cross section domain: (140000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)**

2. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (140000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)  
 WARNING: Domain doesn't match the cross section domain: (170000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)  
 WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)  
 WARNING: Domain doesn't match the cross section domain: (145600.0 -> 20000000.0) vs (103689.0 -> 20000000.0)  
 ... plus 21 more instances of this message
3. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (170000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
4. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
5. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (145600.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
6. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (199601.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
7. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (236556.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
8. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (170000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
9. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (250000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
10. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (250000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

- WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
11. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (221991.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
12. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
13. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (221991.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
14. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
15. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
16. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
17. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_p / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (221991.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
18. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_q / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)
19. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_r / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

20. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_s / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

21. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_t / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

22. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_u / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (300000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

23. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_v / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

24. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_w / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

25. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_x / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

26. Energy range of data set does not match cross section range  
*reaction label 15: n + (Ac225\_c ->Ac225 + gamma) / Product: Ac225\_c / Decay product: gamma\_y / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (400000.0 -> 20000000.0) vs (103689.0 -> 20000000.0)

27. Calculated and tabulated Q values disagree.  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma (Error # 0): Q mismatch*

**WARNING:** Calculated and tabulated Q-values disagree: -6829462.200195312 eV vs -6667820. eV!

28. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

29. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
30. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
31. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
32. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
33. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
34. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
35. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
36. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)
37. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

38. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

39. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

40. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

41. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

42. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

43. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

44. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

45. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

46. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

47. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

48. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

49. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

50. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

51. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

52. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

53. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

54. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

55. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_n / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

56. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

57. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_o / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

58. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_p / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

59. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_p / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

60. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_q / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

61. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_q / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

62. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_r / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

63. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_r / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

64. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_s / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

65. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_s / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

66. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_t / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

67. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_t / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

68. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_u / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

69. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_u / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

70. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_v / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

71. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_v / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

72. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_w / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

73. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_w / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

74. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_x / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

75. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_x / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

76. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_y / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

77. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_y / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

78. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_z / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

79. Energy range of data set does not match cross section range  
*reaction label 16: n[multiplicity:'2'] + Ac224 + gamma / Product: gamma\_z / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (7000000.0 -> 20000000.0) vs (6697710.0 -> 20000000.0)

80. Calculated and tabulated Q values disagree.  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma (Error # 0): Q mismatch*

**WARNING:** Calculated and tabulated Q-values disagree: -12492496.78356934 eV vs -1.23308e7 eV!

81. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_a / Multiplicity: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

82. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_a / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

**WARNING:** Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

83. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_b / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

84. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_b / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

85. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_c / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

86. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

87. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_d / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

88. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_d / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

89. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_e / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

90. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_e / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

91. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_f / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

92. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_f / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

93. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_g / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

94. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_g / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

95. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_h / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

96. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_h / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

97. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_i / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

98. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_i / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

99. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_j / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

100. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_j / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

101. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_k / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
102. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_k / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
103. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_l / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
104. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_l / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
105. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_m / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
106. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_m / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
107. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_n / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
108. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_n / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
109. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_o / Multiplicity: (Error # 0): Domain mismatch (a)*

WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)

110. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_o / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
111. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_p / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
112. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_p / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
113. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_q / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
114. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_q / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
115. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_r / Multiplicity: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
116. Energy range of data set does not match cross section range  
*reaction label 17: n[multiplicity:'3'] + Ac223 + gamma / Product: gamma\_r / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)*
- WARNING: Domain doesn't match the cross section domain: (13000000.0 -> 20000000.0) vs (12386100.0 -> 20000000.0)
117. Calculated and tabulated Q values disagree.  
*reaction label 18: n[multiplicity:'4'] + Ac222 + gamma (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: -19358817.67849731 eV vs -1.91972e7 eV!
118. Calculated and tabulated Q values disagree.  
*reaction label 20: Ac226 + gamma (Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 5237678.479980469 eV vs 5399320. eV!
119. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 17: n + (Ac225\_c ->Ac225 + gamma) total gamma multiplicity (Error # 0): summedMultiplicityMismatch*

- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 29.06%
120. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 18: n[multiplicity:'2'] + Ac224 + gamma total gamma multiplicity*  
*(Error # 0): summedMultiplicityMismatch*
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 100.00%
121. Multiplicity does not match sum of linked product multiplicities!  
*multiplicitySum label 19: n[multiplicity:'3'] + Ac223 + gamma total gamma multiplicity*  
*(Error # 0): summedMultiplicityMismatch*
- WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 87.68%
122. Calculated and tabulated Q values disagree.  
*fissionComponent label 0: /reactionSuite/fissionComponents/fissionComponent[@label='0']*  
*(Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 210547202512.2867 eV vs 1.758325e8 eV!
123. Calculated and tabulated Q values disagree.  
*fissionComponent label 1: /reactionSuite/fissionComponents/fissionComponent[@label='1']*  
*(Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 210547202512.2867 eV vs 1.758325e8 eV!
124. Calculated and tabulated Q values disagree.  
*fissionComponent label 2: /reactionSuite/fissionComponents/fissionComponent[@label='2']*  
*(Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 210547202512.2867 eV vs 1.758325e8 eV!
125. Calculated and tabulated Q values disagree.  
*fissionComponent label 3: /reactionSuite/fissionComponents/fissionComponent[@label='3']*  
*(Error # 0): Q mismatch*
- WARNING: Calculated and tabulated Q-values disagree: 210547202512.2867 eV vs 1.758325e8 eV!
126. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.  
*Section 26 (n + Ac225 [angular distribution]): / Form 'eval': / LegendreLValue L=1 vs 1*  
*(Error # 0): Bad evs*
- WARNING: 10 negative eigenvalues! Worst case = -7.422737e-05
- njoy2012 Warnings:
    1. Evaluation has no resonance parameters given  
*unresr...calculation of unresolved resonance cross sections (0): No RR*

```
---message from unresr---mat 8925 has no resonance parameters
copy as is to nout
```
    2. In some evaluations, the partial fission reactions MT=19, 20, 21, and 38 are given in File 3, but no corresponding distributions are given. In these cases, it is assumed that MT=18 should be used for the fission neutron distributions.  
*heatr...prompt kerma (0): HEATR/hinit (3)*

```
---message from hinit---mt19 has no spectrum  
mt18 spectrum will be used.
```

3. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (1): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 16 does not give recoil za= 89224  
one-particle recoil approx. used.
```

4. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (2): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 17 does not give recoil za= 89223  
one-particle recoil approx. used.
```

5. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (3): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 37 does not give recoil za= 89222  
one-particle recoil approx. used.
```

6. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (4): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 51 does not give recoil za= 89225  
one-particle recoil approx. used.
```

7. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (5): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 52 does not give recoil za= 89225  
one-particle recoil approx. used.
```

8. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (6): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 53 does not give recoil za= 89225  
one-particle recoil approx. used.
```

9. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (7): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 54 does not give recoil za= 89225  
one-particle recoil approx. used.
```

10. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (8): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 55 does not give recoil za= 89225  
one-particle recoil approx. used.
```

11. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (9): HEATR/hinit (4)*

```
---message from hinit---mf6, mt 56 does not give recoil za= 89225  
one-particle recoil approx. used.
```

12. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (10): HEATR/hinit (4)*

---message from hinit---mf6, mt 57 does not give recoil za= 89225  
one-particle recoil approx. used.

13. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (11): HEATR/hinit (4)*

---message from hinit---mf6, mt 58 does not give recoil za= 89225  
one-particle recoil approx. used.

14. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (12): HEATR/hinit (4)*

---message from hinit---mf6, mt 59 does not give recoil za= 89225  
one-particle recoil approx. used.

15. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (13): HEATR/hinit (4)*

---message from hinit---mf6, mt 60 does not give recoil za= 89225  
one-particle recoil approx. used.

16. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (14): HEATR/hinit (4)*

---message from hinit---mf6, mt 61 does not give recoil za= 89225  
one-particle recoil approx. used.

17. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (15): HEATR/hinit (4)*

---message from hinit---mf6, mt 62 does not give recoil za= 89225  
one-particle recoil approx. used.

18. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (16): HEATR/hinit (4)*

---message from hinit---mf6, mt 63 does not give recoil za= 89225  
one-particle recoil approx. used.

19. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (17): HEATR/hinit (4)*

---message from hinit---mf6, mt 64 does not give recoil za= 89225  
one-particle recoil approx. used.

20. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (18): HEATR/hinit (4)*

---message from hinit---mf6, mt 91 does not give recoil za= 89225  
one-particle recoil approx. used.

21. Recoil is not given, so one-particle recoil approximation used.  
*heatr...prompt kerma (19): HEATR/hinit (4)*

---message from hinit---mf6, mt102 does not give recoil za= 89226  
photon momentum recoil used.

22. There is a problem with the fission energy release.  
*heatr...prompt kerma (24): HEATR/nheat (3)*

---message from nheat---changed q from 1.758325E+08 to 1.682376E+08  
for mt 18

23. Evaluation has no resonance parameters given  
*purr...probabalistic unresolved calculation (0): No RR*

---message from purr---mat 8925 has no resonance parameters  
copy as is to nout